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NORTH AMERICAN SPECIES OF THE GENUS RAMALINA.—PART VI

R. HEBER HOWE, JR.

SERIES: *Fistulariae* Wain. Class. Nat. et Morph. Lich. Bresil, 14. 1890.
Thallus foraminous or fistulous. Spermogones pale.

KEY TO THE *Fistulariae*.

Thallus over 10 mm. alt.

Apices multifid-dendroid.....*pollinariella*

Apices not multifid-dendroid.....*inflata*

Thallus not over 10 mm. alt.....*dilacerata*

Ramalina pusilla Duby.

SYNONYMY: *Ramalina pusilla* Duby, Bot. Gall. 6: 614. 1830.

TYPE: In the herbarium of the Botaniska Institution, Upsala fide Dr. O. Juel.¹

TYPE LOCALITY: "insulis Staechadum" (= Is. Hyères, France) Le Prevost.

ORIGINAL DESCRIPTION: "thallo cartilagineo pusillo dense cespitoso simplicusculo viridi-lutescente sublacunoso, ramis fistuloso-caniculatis extus glabris intus pulverulentis apice saccato-dilatatis, apotheciis terminalibus lateralibusque subelevatis disco carneo glaucescente concavo margine elevato integerrimo." l. c.

FIGURE: *Pl. X, f. 5.*

OBSERVATIONS: This species, though included by Tuckerman as a member of our flora, has never to my knowledge been collected within our area. Mr. Merrill's remark that "Tuckerman's disposition of American representatives of the fistulous *Ramalinas* is unsatisfactory and incomprehensible" states the case fairly and fully. This species is often confused in Europe with the variety *intumescens* of *R. fastigiata* (sensu Nyl.). The American material referred here by Tuckerman should be known as *R. dilacerata*.

Ramalina dilacerata (Hoffm.) Wain.

SYNONYMY: *Lichen dilacerata* Hoffm. Deutsch. Flora 3:140. 1795.

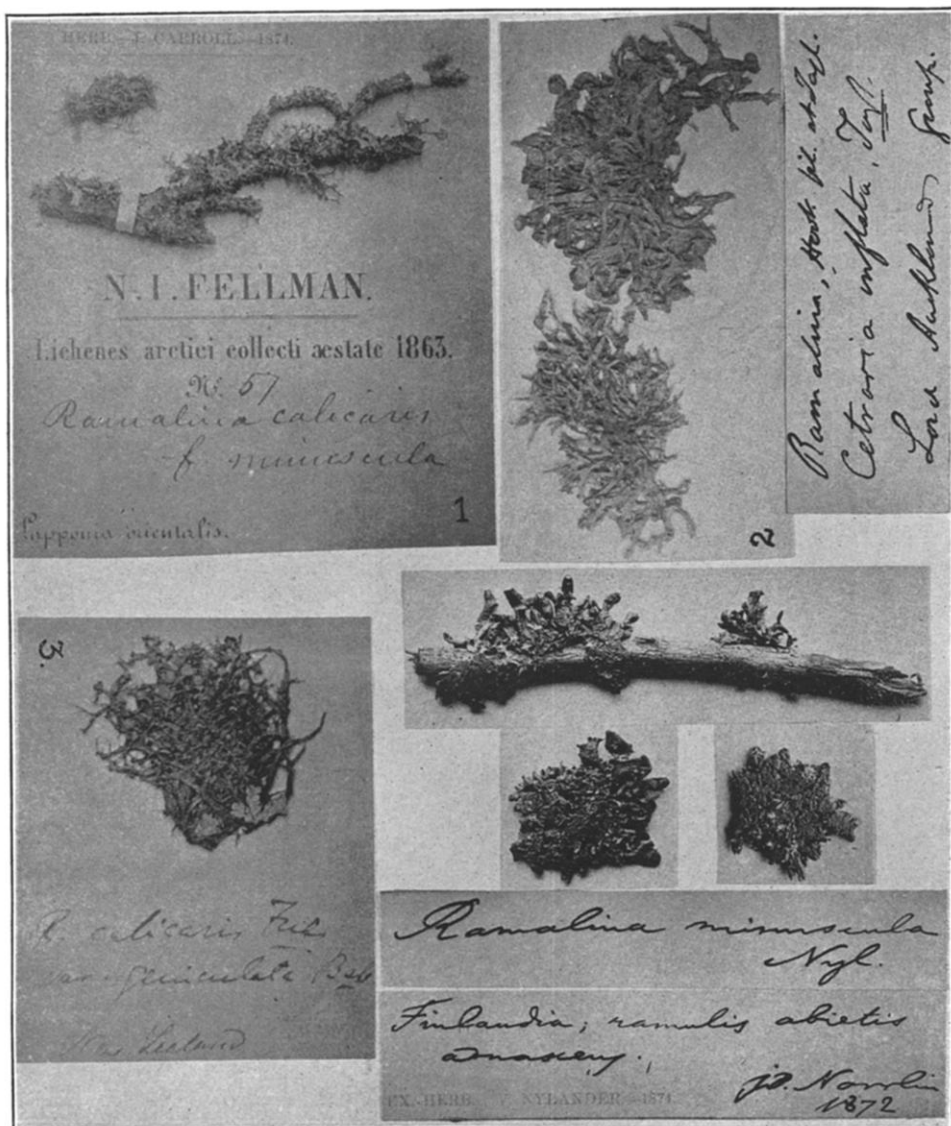
Ramalina dilacerata Wain. Not. syn. lich. 21. 1886.

Ramalina calicaris f. *minuscule* Nyl. Prod. Lich. Scand. Supp. Lich. Lapp. orient. 114. 1866.²

¹ On orig. label: "je recommande particulièrement à votre attention ce lichen que je crois nouveau et que j'ai trouvé aux Iles d'Hyères, sur la cote de Provence." Le Prevost?

² TYPE: No. 57, Fjellman. Lich. arct. 1863 at Brit. Museum. TYPE LOCALITY: "Soukelo" . . . , "Imandram." ORIG. DESCRIPT.: "accedens versus fastigiatam, quae est diminuta, sed tangit quoque *calicarem* (altitudo saepius 5-8 millimetrorum, fertiles." l. c.

The May number of THE BRYOLOGIST was published June 11, 1914.



Ramalina minuscula Nyl. Recog. mono. Ram. 164. 1870.

Ramalina pusilla (Prev.) sensu Tuckerman.

TYPE: Not traced. Dr. Wainio reported the type as in the herbarium [Botanischer Garten und Botanisches Kabinett der Kaiserl. Universitat] at Moscow in 1886.

TYPE LOCALITY: Not given: Germany?

ORIGINAL DESCRIPTION: "erecta laciniata squarrosa compressa rigida nuda."

l. c.

FIGURE: Dill. Hist. Musc., Pl. 21, f. 55 G.

DIAGNOSIS: *Thallus* caespitose, (10 mm. alt.), subterete, nitidous, foraminous, apothecia terminal, often spurred. Spores straight.

DESCRIPTION: *Thallus* caespitose (max. length 10 mm.), subrigid, stramineous to virescent; *cortex* nitidous, foraminous; *laciniae* subterete, dichotomous (max. width 2 mm.), apices furcate, attenuate. *Apothecia* common, terminal, concave at length convex, marginate finally immarginate (max. diam. 3 mm.), disk wax color. *Spores* ellipsoid, straight, $\frac{9-17}{4-7}\mu$.

CONTINGENT PHASES: Unobserved.

SUBSTRATUM: On trees.

DISTRIBUTION: In the Transition and Boreal Zones from Newfoundland to Nantucket Island westward to Yukon and Minnesota.

STATIONS: QUEBEC: Gaspé; NEWFOUNDLAND: Middle Arm, St. George's Bay; NOVA SCOTIA: Sandy Cove, Grand Manan; MASSACHUSETTS: Nantucket; ONTARIO: Nipigon River; MINNESOTA: Snowbank Lake, Rainy Lake City, Beaver Bay, Gunflint, Grand Portage Island, Koocheching; YUKON: Dawson.

OBSERVATIONS: This minute species with waxy apothecia and shiny foraminous laciniae appears at first to be an immature condition of *fastigiata*. It is closely related to the following *inflata*. In fact, the range of the typical *dilacerata* does not extend west of a line running from Minnesota to Yukon and intergrades inseparably into *inflata* from this point westward.

EXSICCATI: No. 207, Lich. Boreali-Amer. Cummings. Middle Arm, Newfoundland, Apr. 3, 1897, A. C. Waghorne.

No. 3, Canadian Lichens, Macoun, Quebec, 1882-4.

Ramalina pollinariella Nyl.

SYNONYMY: *Ramalina minuscula* var. *pollinariella* Nyl. Recog. mono. Ram., 165 [67]. 1870.

Ramalina pusilla β *geniculata* Tuck. Synop. No. Amer. Lich. 1:26. 1882.

Ramalina pollinariella Nyl. Enum. Lich. Freti Behr. 7. 1888.

Ramalina dilacerata f. *pollinariella* Ann. Verh. Zool. Bot. Ges. Wien. 47: 354. 1897.

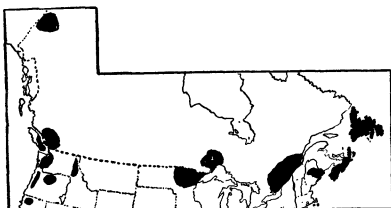


FIG. 1.—Distribution of *R. dilacerata* and *inflata*.

TYPE: In the herbarium of the Museum d'Histoire naturelle, Paris, fide author.

TYPE LOCALITY: "Terra Nova," Despréaux.

ORIGINAL DESCRIPTION: "Differt thallo libenteus compresso magisque diviso, ramulis tenuibus apices sorediellis; sterilis." l. c.

FIGURE: Plant World 17: 157. f. 1. 1914.

DIAGNOSIS: *Thallus* caespitose, subcompressed, subrigid, *foraminous*, apices *multifid-dendroid sorediate*. Apothecia marginal. Spores straight.

DESCRIPTION: *Thallus* caespitose (max. length 5 cm.), subrigid, pale virescent; *cortex* glabrous, foraminous; *laciniae* subcompressed, terete above, fistulous below (max. width 2 mm.) much branched, apices dendroid-multifid sorediate. *Apothecia* rare, marginal, concave, marginate (max. diam. 2 mm), disk yellowish. *Spores* ellipsoid, straight, $\frac{8-19}{3.5-7.5}\mu$.

CONTINGENT PHASES: Unobserved.

SUBSTRATA: Trees and shrubs.

DISTRIBUTION: Common in the Boreal Zone near the Coast.

STATIONS: NEWFOUNDLAND: Steenville, Exploits; MIQUELON: QUEBEC: Gaspé; CAPE BRETON: MAINE: Rockport, Southwest Harbor, Rockland: NEW HAMPSHIRE: Mt. Monadnock?

OBSERVATIONS: This species, distinguished from *farinacea* (*intermedia*) by basally fistulous, foraminous laciniae and dendroid-multifid apices, has been little understood until recently. It is distinctly Boreal in its range and the *No. 179*, Lich. Boreali-Americani referred to by Mr. Merrill cannot be placed here. I have observed specimens with a few scattered apothecia and after a careful study of the plant in the field in Newfoundland believe that we must consider it a species.

EXSICCATI: *No. 105*, Lich. Exsiccati, Merrill, Warren, Me., May 25, 1909. *G. K. Merrill*.

Ramalina inflata Hook. and Tayl.

SYNONYMY: *Cetraria inflata* Hook. and Tayl. Lond. Journ. Bot. 3:646. 1844.

Ramalina geniculata Hook. and Tayl. Lond. Journ. Bot. 3:655. 1844.¹

Ramalina inflata J. D. Hook & Tayl. Lich. Antarct. 646. 1844.

TYPE: In the Royal Herbarium at Kew, London, fide author. Topotype in the Taylor Collection, Boston Society of Natural History, Boston,

TYPE LOCALITY: "Lord Auckland's group."

ORIGINAL DESCRIPTION: "thallo in caespitem orbicularem congesto pallidissime flavo divaricato-dichotomo lobis fistulosis intus stuppeis foraminulosis



FIG. 2.—Distribution of *R. pollinariella*.

¹ TYPE LOC.: "New Zealand." ORIG. DESCRIPT.: "thallo laxe caespitoso albedo-cinereo glabro dichotomo ramosissimo, ramis intricatis lobis linearibus hinc concaviusculis acuminatis, gemmis dispersis granulatis statim linearibus, apotheciis planis concoloribus margine tenui integerrimo subtus thalli laciniam emittentibus." l. c. FIG.: l. c. Pl. 79, f. 2.

ultimis acuminatis, apotheciis terminalibus substipitatis concavis disco concolore pruinoso margine inflexo integerrimo." 1. c.

FIGURE: *Pl. X, f. 2.*

DIAGNOSIS: *Thallus* caespitose (2 cm. alt.), subcompressed, *nitidous*, *foraminous* to *cribrate*, apothecia terminal, spurred.

DESCRIPTION: *Thallus* caespitose (2 cm. alt.), subrigid, stramineous to pale virescent; *cortex* nitidous, *cribrate*, *lacinae* subcompressed, dichotomous (max. width 3 mm.) apices attenuate. *Apothecia* common, terminal or subterminal, convex, generally marginate (max. diam. 4 mm.), disk wax color. Spores ellipsoid, straight, $\frac{14-18}{9-11}\mu$.

CONTINGENT PHASES: Unobserved.

SUBSTRATUM: Trees.

DISTRIBUTION: Not uncommon in the Transition Zone from northern California northward to British Columbia and east to Idaho.

STATIONS: CALIFORNIA: Austrian Gulch; OREGON: Clarkes, Sanviers Island, Coast Mts.; IDAHO: Atmis Mt., Kootenay County; WASHINGTON: Cathlamet, Seattle, Lake Washington; BRITISH COLUMBIA: Comox.

OBSERVATIONS: This not uncommon species seems only a robust condition of the former species, more cribrate, because perhaps presenting from its size a greater extent of thalline surface for foramina. *R. inflata* and *geniculata*, after a comparison of the types, appear identical,—the former name has only page priority. This is the most satisfactory species of the series, being distinctly fistulous, and appears to intergrade eastward into *dilacerata*, though distinctly more compressed. It has been misdetermined as *R. Menziesii* by distributors (Foster).

EXPLANATION OF PLATE X.

1. The Nylander type of *Ramalina calicaris* var. *minuscule* at London (slightly reduced).
2. The Hooker fil. et Taylor type of *Cetraria inflata* at Kew (slightly reduced).
3. The Hooker et Taylor type of *Ramalina geniculata* at Kew (nat. size).
4. The Duby type of *R. pusilla* at Upsala (nat. size). Lower right-hand corner of plate not numbered.

A LIST OF HEPATICAE COLLECTED UPON ISLE ROYALE, LAKE SUPERIOR. [*Concluded.*]

GEORGE HALL CONKLIN

Marchantiaceae.

1. *Conocephalum conicum* (L.) Dumort. (840) Bank of small stream near site of Ransome, Aug. 23; (717) Near stream, outlet of Lake Sumner, Aug. 27; (1133) Near stream from Lake Sumner to Conglomerate Bay, Aug. 29; (1209A) Mott Island, Aug. 31.